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(54) **MATERNAL UNDER GARMENT**

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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,546,564 B1 \* 4/2003 Palmer ..... A41B 9/14  
2/409  
9,962,286 B2 5/2018 Mahon  
2005/0090796 A1 \* 4/2005 Coleman ..... A61F 13/622  
604/387  
2007/0219515 A1 \* 9/2007 Marsh ..... A61K 8/0208  
516/53  
2009/0036857 A1 2/2009 Sherrod  
(Continued)

FOREIGN PATENT DOCUMENTS

CN 101313875 A 12/2008  
CN 203458541 U 3/2014

(Continued)

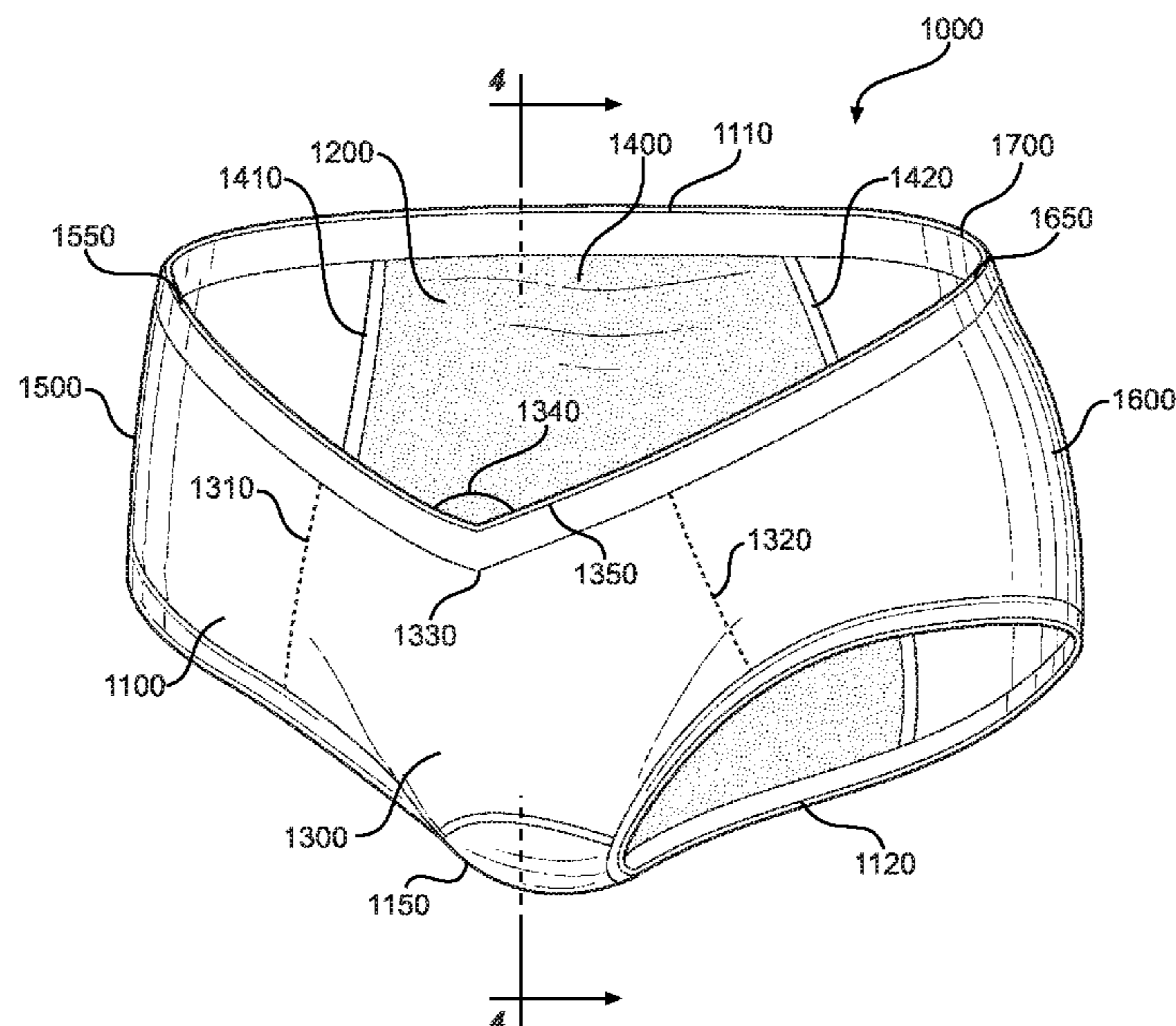
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(57) **ABSTRACT**

A garment for postnatal women for absorbing postpartum bleeding and providing soothing effects during post-partum recovery. The maternal under garment includes an exterior layer having a waist opening and a pair of leg openings. An interior layer overlaps the exterior layer along a front panel and a rear panel of the garment. An upper perimeter of the front panel includes a V-shape, wherein a nadir of the V-shape is centrally positioned on the front panel to comfortably rest below a stomach area of a woman. The maternal under garment includes an adjustable waist band to retract as the stomach area becomes smaller postpartum. Multiple layers are disposed between the interior and exterior layer, such as an absorbent layer for absorbing postpartum bleeding, a cooling layer for soothing genitals during postpartum recovery, and an antibacterial layer for assisting with pain relief and the healing process after birth.

**14 Claims, 4 Drawing Sheets**



(56)

**References Cited**

U.S. PATENT DOCUMENTS

2014/0273744 A1\* 9/2014 Castellano ..... A41B 17/00  
450/156  
2015/0080827 A1\* 3/2015 Fogg ..... A61F 13/84  
604/377  
2015/0290049 A1\* 10/2015 Riha-Scott ..... A41B 9/001  
604/387

FOREIGN PATENT DOCUMENTS

CN 203952455 \* 11/2014 ..... A41B 9/04  
CN 205667363 \* 11/2016 ..... A41B 9/04  
KR 100341734 B1 10/2003  
WO 2003099158 A2 12/2003

\* cited by examiner

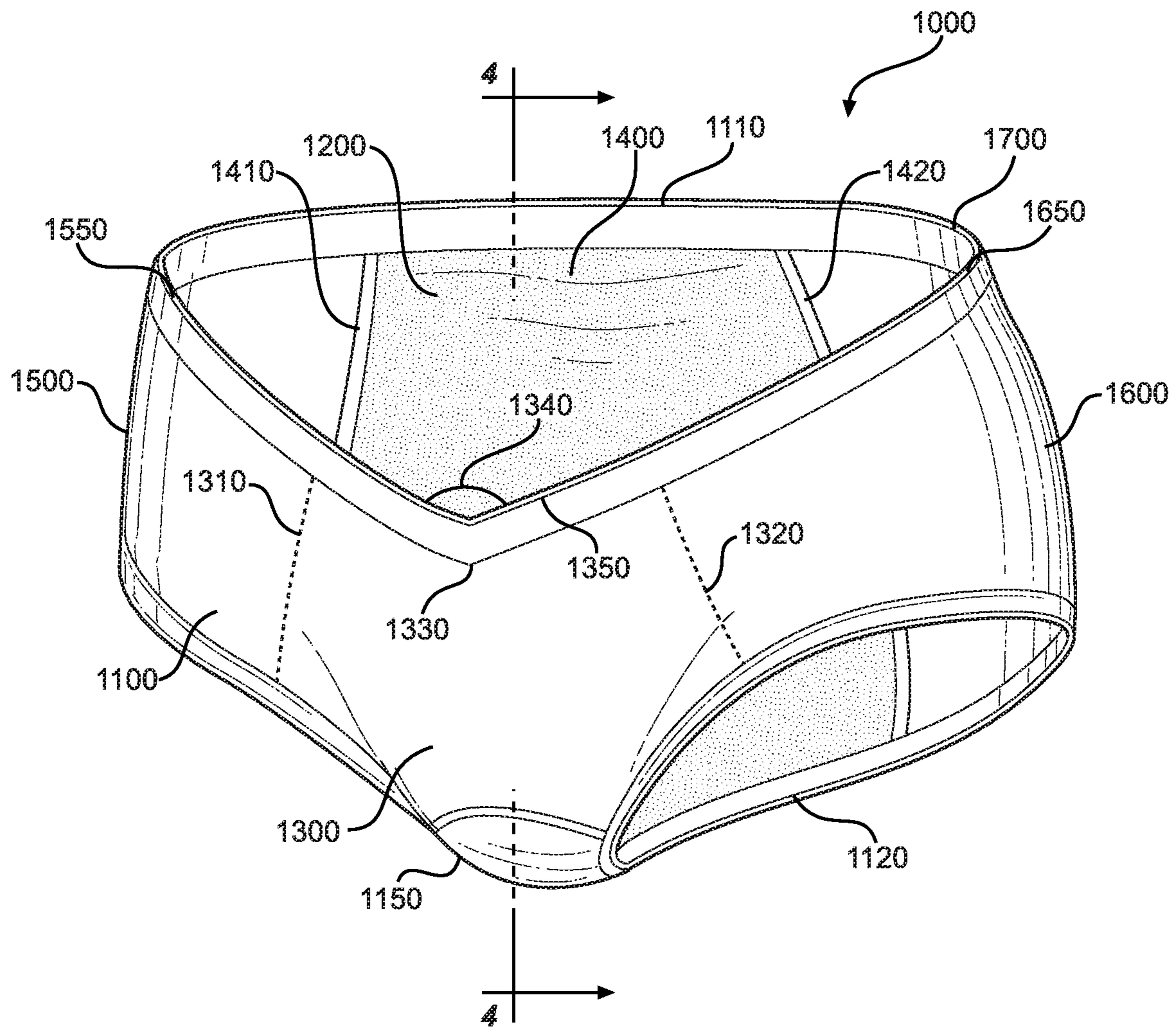


FIG. 1

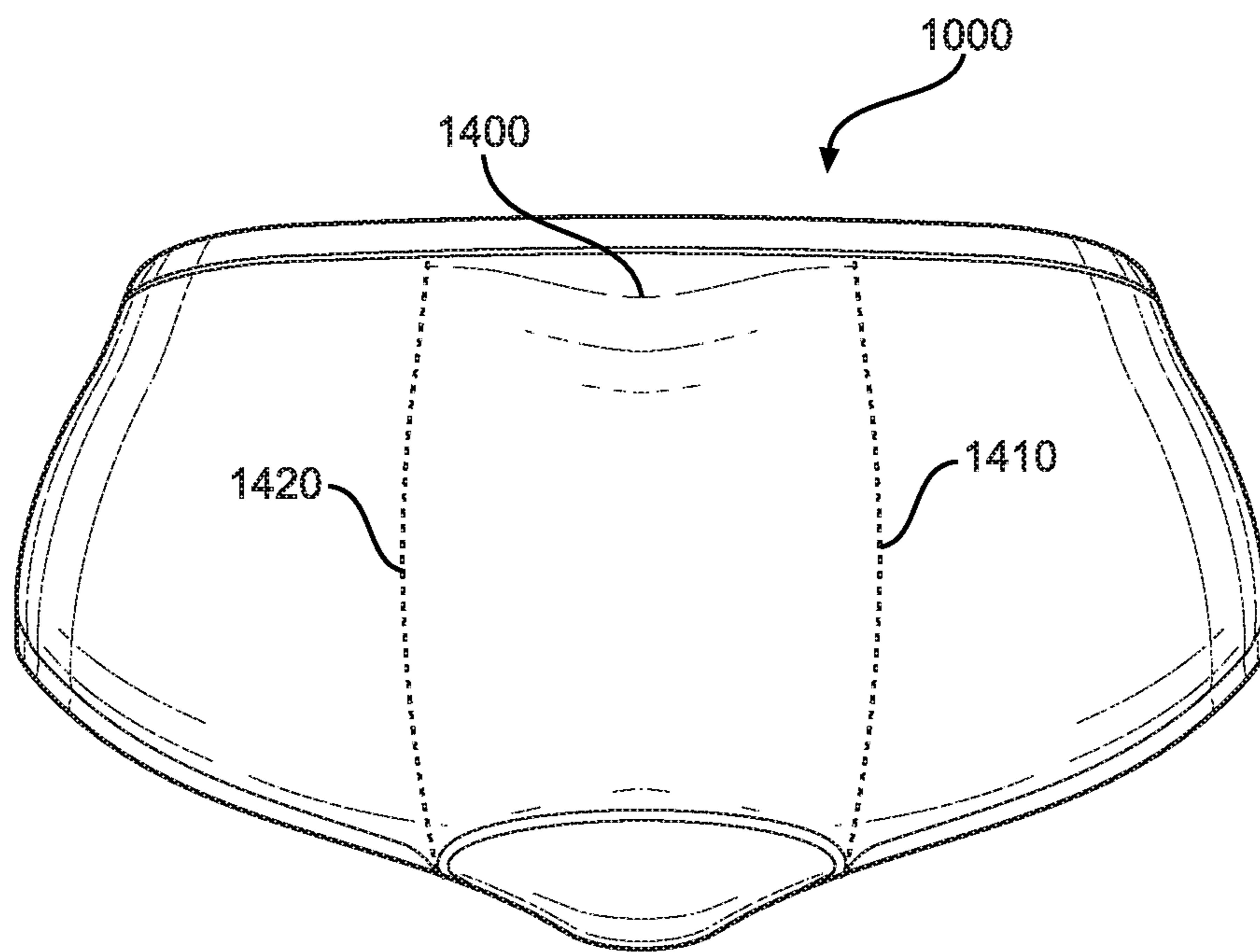


FIG. 2

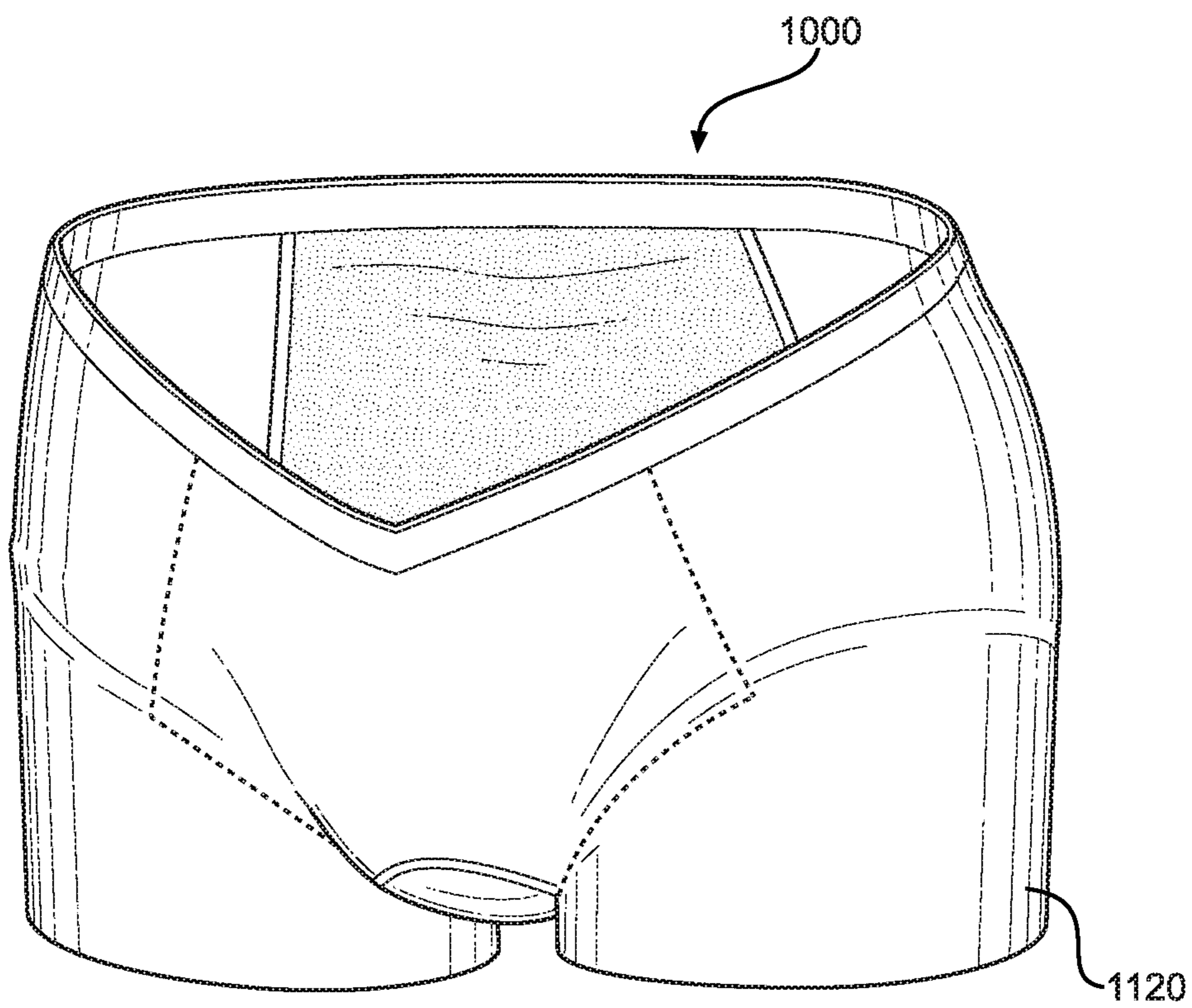


FIG. 3

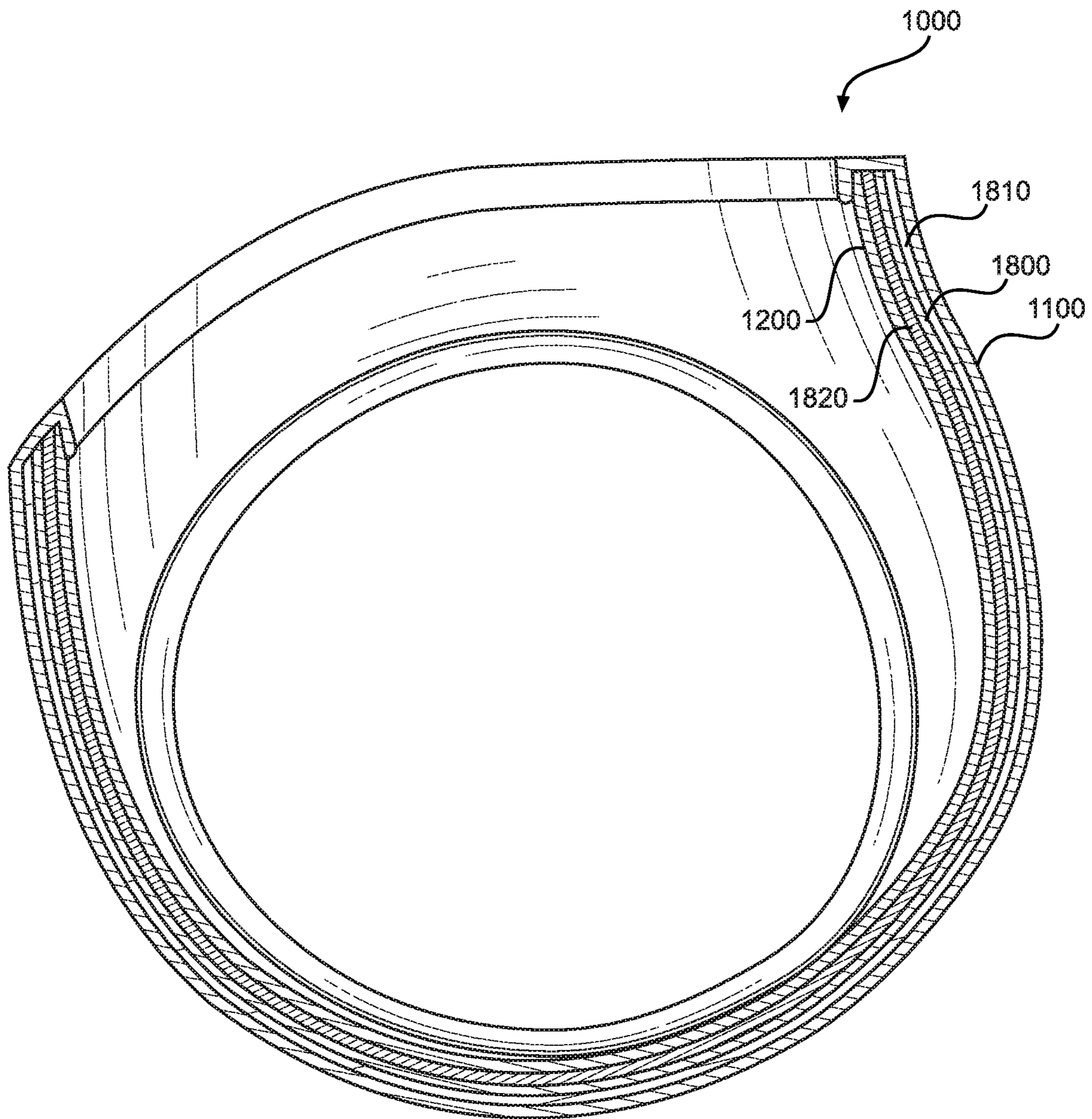


FIG. 4

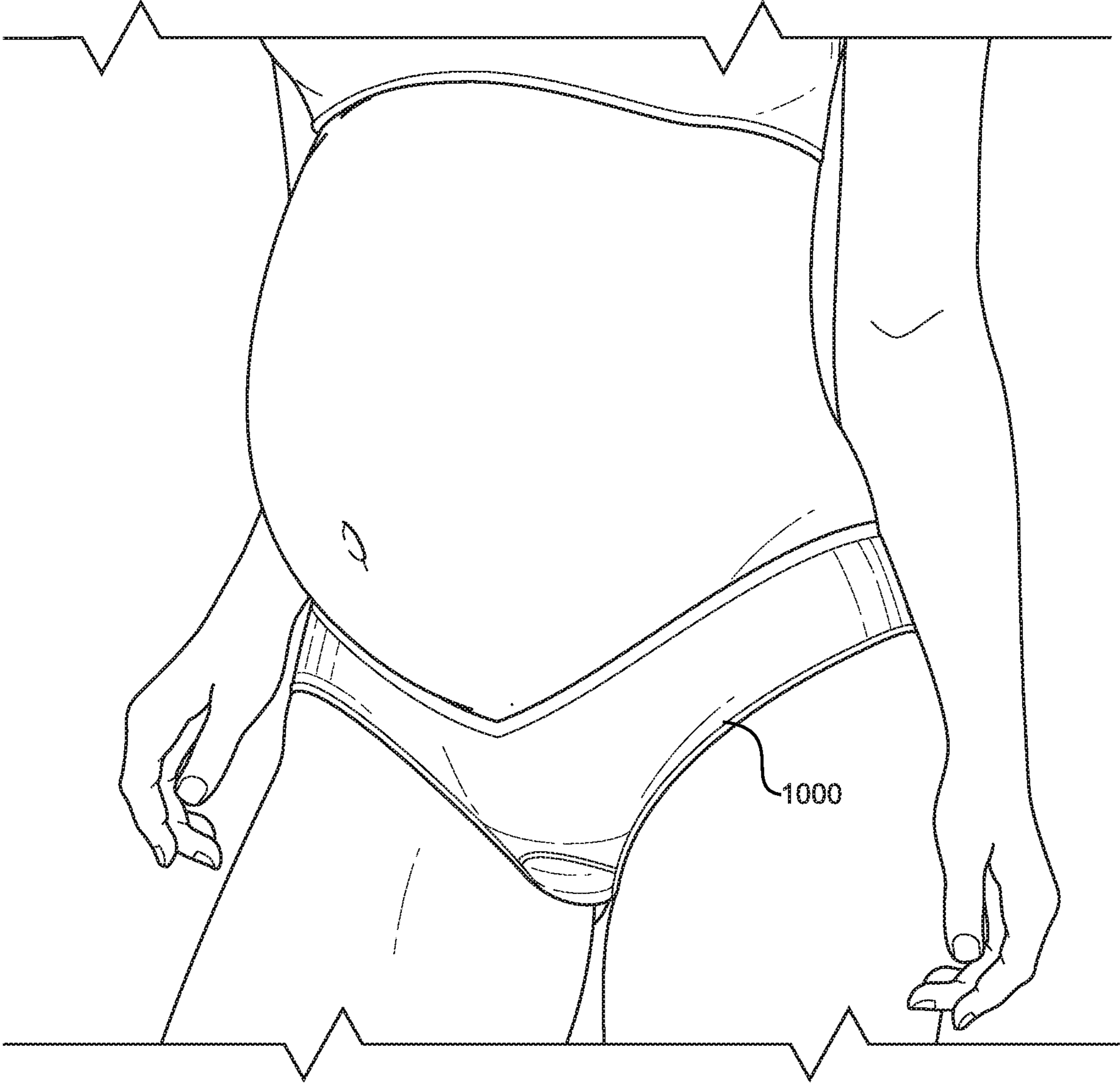


FIG. 5

**1****MATERNAL UNDER GARMENT**

## BACKGROUND OF THE INVENTION

The present invention relates to underwear. The present invention provides a maternal under garment configured to absorb fluid and assist in healing and pain relief of a woman postpartum.

After giving birth, women must endure a healing process for several weeks or months thereafter. The process typically includes postpartum vaginal bleeding, vaginal pain at tear cites that occurred during birth or stitched areas where vaginal repair occurred after birth. The process is not only painful and uncomfortable for women, but clothes and undergarments become ruined if appropriate padding is not worn or changed quickly enough when postpartum bleeding occurs.

There have been attempts to address these postpartum issues, such as large absorbent pads to be worn with existing underwear or disposable underwear. However, none of the existing devices provide a garment specifically designed to have a V-shape upper perimeter configured to rest below a postpartum stomach, as well as multiple layers to provide pain relief and healing benefits.

In light of the devices disclosed in the known art, it is submitted that the present invention substantially diverges in design elements and methods from the known art and consequently it is clear that there is a need in the art for an improvement for a maternal under garment. In this regard the instant invention substantially fulfills these needs.

## SUMMARY OF THE INVENTION

In view of the foregoing disadvantages inherent in the known types of maternal under garments now present in the known art, the present invention provides a new maternal under garment wherein the same can be utilized for absorbing postpartum bleeding, as well as providing pain relief and assisting in the healing process after giving birth.

It is an objective of the present invention to provide a maternal under garment comprising an exterior layer, an interior layer, a front panel, an opposing rear panel, a first side panel, and an opposing second side panel. The exterior layer comprises a waist opening and a pair of leg openings, wherein the interior layer overlaps the exterior layer along the front panel and rear panel of the garment.

It is another objective of the present invention to provide a maternal under garment wherein an upper perimeter of the front panel includes a V-shape, such that a nadir of the V-shape is centrally positioned on the front panel to comfortably rest below a belly of a woman.

It is yet another objective of the present invention to provide a maternal under garment having an adjustable waist band to retract as the belly becomes smaller postpartum.

It is another objective of the present invention to provide a maternal under garment comprising an absorbent layer and a cooling layer disposed between the exterior and interior layers thereof, wherein the absorbent layer is configured to absorb up to three cups of liquid and the cooling layer comprises a material configured to retain temperature for a length of time.

It is yet another objective of the present invention to provide a maternal under garment having an antibacterial layer comprising an antibacterial liquid, such as witch hazel.

**2**

It is therefore an object of the present invention to provide a new and improved new maternal under garment that has all of the advantages of the known art and none of the disadvantages.

Other objects, features and advantages of the present invention will become apparent from the following detailed description taken in conjunction with the accompanying drawings.

## BRIEF DESCRIPTIONS OF THE DRAWINGS

Although the characteristic features of this invention will be particularly pointed out in the claims, the invention itself and manner in which it may be made and used may be better understood after a review of the following description, taken in connection with the accompanying drawings.

Reference will now be made in detail to the exemplary embodiment (s) of the invention. References to "one embodiment," "at least one embodiment," "an embodiment," "one example," "an example," "for example," and so on indicate that the embodiment(s) or example(s) may include a feature, structure, characteristic, property, element, or limitation but that not every embodiment or example necessarily includes that feature, structure, characteristic, property, element, or limitation. Further, repeated use of the phrase "in an embodiment" does not necessarily refer to the same embodiment. Additionally, "garment", "underwear" and "under garment" may be used interchangeably and refer to the present invention.

FIG. 1 shows a front perspective view of an embodiment of the maternal under garment.

FIG. 2 shows a rear view of a first alternate embodiment of the maternal under garment.

FIG. 3 shows a perspective view of a second alternate embodiment of the maternal under garment.

FIG. 4 shows a cross sectional view of an embodiment of the maternal under garment.

FIG. 5 shows a perspective view of an embodiment of the maternal under garment in use.

## DETAILED DESCRIPTION OF THE INVENTION

For the purposes of presenting a brief and clear description of the present invention, the preferred embodiment will be discussed as used for receiving detailed item information and allowing a user to quickly locate those items in a store.

Referring now to FIGS. 1 and 2, there is shown a front perspective view of an embodiment of the maternal under garment and a rear view of a first alternate embodiment of the maternal under garment, respectively. The maternal under garment **1000** is configured to be worn by postnatal women for absorbing postpartum bleeding and providing soothing effects during post-partum recovery. However, in alternate uses, the under garment is adapted to be worn by users seeking to soothe and heal genitals, as well as applications requiring absorption of leakage such as urinary absorption. In the illustrated embodiment, the maternal under garment **1000** comprises a front panel **1300**, an opposing rear panel **1400**, a first side panel **1500**, and an opposing second side panel **1600**, wherein each panel forms an exterior layer **1100**. An interior layer **1200** is formed along the front panel **1300** and rear panel **1400**.

In the illustrated embodiment, the exterior layer **1100** is defined as the outer most layer of the garment **1000** and the interior layer is defined as the interior most layer of the garment configured to directly contact a user's genitals. In

the illustrated embodiment, the interior layer **1200** comprises a material configured to allow liquid to pass therethrough, as well as having a smooth surface to prevent the layer **1200** from catching or pulling any stitches of a user when worn.

The exterior layer **1100** is composed of a soft, breathable fabric, such as cotton. In some embodiments, the exterior layer **1100** is biodegradable, organic, includes no added chemicals and is plastic free. The exterior layer **1100** comprises a waist opening **1110** and a pair of leg openings **1120**, each configured to receive respective parts of a user's body when donned. In the illustrated embodiment, the leg openings **1120** are configured to rest above a user's thigh when worn. However, in alternate embodiments, as seen in FIG. 3, the leg openings **1120** are configured to extend along a user's thigh when worn. In some embodiments, the maternal under garment **1000** comprises an adjustable waist band **1700** configured to retract as a wearer's stomach area becomes smaller postpartum. In the illustrated embodiment, the adjustable waist band is elastic.

In the illustrated embodiment, the interior layer **1200** only overlaps the exterior layer **1100** along the front and rear panels **1300**, **1400**, whereas the first and second side panels comprise only the exterior layer. The front panel **1300** extends from a genital region **1150** of the garment toward a front side thereof, whereas the rear panel **1400** extends from the genital region **1150** towards a rear side thereof to form a continuous strip. Opposing lateral sides **1310**, **1320** of the front panel **1300** are bounded between the first and second side panels **1500**, **1600** and the opposing lateral sides **1410**, **1420** of the rear panel **1400** are bounded between the first and second side panels **1500**, **1600**, such that a lateral side **1310** of the front panel **1300** does not directly engage with a lateral side **1410** of the rear panel **1400**.

In the shown embodiment, the uppermost height of the front panel is relatively lower than the uppermost height of the rear panel. An upper perimeter **1350** of the front panel **1300** includes a V-shape, wherein a nadir **1330** of the V-shape is centrally positioned on the front panel **1300** to comfortably rest below a belly of a woman. The nadir is defined as the lowest point. In the illustrated embodiment, the V-shape comprises an angle **1340** between ninety and one hundred and sixty degrees. In some embodiments the upper perimeter **1350** of the front panel **1300** is linear with an adjacent upper perimeter **1550** of the first side panel **1500** or second side panel **1600**. However, in alternate embodiments, the upper perimeter **1350** of the V-shape is offset with the perimeter **1550**, **1650** of the side panels **1500**, **1600**.

In the illustrated embodiment, the lateral sides **1310**, **1320** of the front panel **1300** and the lateral sides **1410**, **1420** of the second panel **1400** taper outwards from the upper perimeter thereof. However, in alternate embodiments, as seen in FIG. 2, the lateral sides **1410**, **1420** of the rear panel **1400** of the maternal under garment **1000** are linear or parallel to one another. In this way, the maternal under garment **1000** comprises less interior layer to reduce bulkiness when worn.

Referring now to FIG. 4, there is shown a cross sectional view of an embodiment of the maternal under garment. The maternal under garment **1000** comprises multiple layers sandwiched between the interior layer **1200** and the exterior layer **1100**. In the illustrated embodiment, the maternal under garment **1000** comprises an absorbent layer **1800** configured to absorb up to 3 cups of postpartum bleeding. In the illustrated embodiment, the absorbent layer **1800** is not removable and instead embedded between the interior and

exterior layer **1100**, **1200**. The absorbent layer **1800** is composed of any suitable material, such as, but not limited to, cotton.

In some embodiments, the maternal under garment **1000** comprises a cooling layer **1810** configured to provide a soothing effect to the genitals of a user when worn. In the illustrated embodiment, the cooling layer **1810** is disposed closest to the exterior layer **1100**, whereas the absorbent layer **1800** is closer to the interior layer **1200** since the cooling layer **1800** is not configured to receive liquid therethrough. In some embodiments, the cooling layer **1810** comprises a cooling gel that can be put in the freezer or refrigerator for lengthening the cooling effect. In other embodiments, the cooling layer **1810** comprises chemicals configured to react with one another to result in a cooling effect. In some embodiments, the cooling layer **1810** is removable through an opening in the exterior layer **1100** in order to replace or refreeze the cooling layer **1810**.

In the illustrated embodiment, the maternal under garment **1000** comprises an antibacterial layer **1820** configured to provide pain relief and assist with healing genital sores received from birth. The antibacterial layer **1820** is closest to the interior layer **1200** in order to provide topical relief to the genital area. In the illustrated embodiment, the antibacterial layer **1820** comprises witch hazel embedded onto a substrate similar to the interior layer **1200** that allows postpartum bleeding and other liquid to pass therethrough to the absorbent layer **1800**. In some embodiments, the maternal under garment does not have a separate antibacterial layer, but instead an antibacterial liquid is embedded on the interior layer **1200**. In the shown embodiment, each layer **1100**, **1200**, **1800**, **1810**, **1820** is entirely coextensive with each other layer. Further, each layer **1100**, **1200**, **1800**, **1810**, **1820** extends an entirely between an uppermost height of the front panel and the rear panel.

Referring now to FIG. 5, there is shown a perspective view of an embodiment of the maternal under garment in use. In operation, the user dons the maternal under garment similar to underwear. Once the maternal under garment is soiled or all of the soothing effects have depleted, such as the witch hazel and cooling effect, the user may change to a new pair of maternal under garment **1000**. In some embodiments, the maternal under garment is disposable, whereas in alternate embodiments the maternal under garment is machine washable.

It is therefore submitted that the instant invention has been shown and described in what is considered to be the most practical and preferred embodiments. It is recognized, however, that departures may be made within the scope of the invention and that obvious modifications will occur to a person skilled in the art. With respect to the above description then, it is to be realized that the optimum dimensional relationships for the parts of the invention, to include variations in size, materials, shape, form, function and manner of operation, assembly and use, are deemed readily apparent and obvious to one skilled in the art, and all equivalent relationships to those illustrated in the drawings and described in the specification are intended to be encompassed by the present invention.

Therefore, the foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.



5

I claim:

1. A maternal under garment, comprising:  
a front panel, an opposing rear panel, a first side panel,  
and an opposing second side panel forming an exterior  
layer, wherein the first and second side panels are each  
disposed between the front panel and rear panel;  
wherein the exterior layer comprises a waist opening and  
a pair of leg openings;  
an interior layer formed along the front panel and the rear  
panel;  
an absorbent layer positioned between the exterior layer  
and the interior layer, wherein the exterior, absorbent,  
and the interior layers are disposed in a stacked con-  
figuration:  
wherein the absorbent layer is not removable from the  
maternal under garment, wherein an upper end of the  
absorbent layer terminates at the waist opening, such  
that the absorbent layer extends from an upper end of  
the front panel to an upper end of the rear panel;  
wherein an upper perimeter of the front panel comprises  
a V-shape having an angle between 90 and 160 degrees;  
wherein a nadir of the V-shape centrally positioned on the  
front panel.
2. The maternal garment of claim 1, further comprising an  
adjustable waist band configured to retract to a small diam-  
eter.
3. The maternal garment of claim 1, further comprising a  
cooling layer having a material configured to provide a  
cooling effect.
4. The maternal garment of claim 3, wherein the cooling  
layer comprises a gel configured to be frozen.
5. The maternal garment of claim 3, wherein the cooling  
layer comprises chemical configured to react with one  
another to provide a cooling effect.

6

6. The maternal garment of claim 1, further comprising an  
antibacterial fluid embedded on the interior layer.
7. The maternal garment of claim 6, wherein the antibac-  
terial fluid is witch hazel.
8. The maternal garment of claim 1, further comprising an  
antibacterial layer positioned between the interior and exte-  
rior layer.
9. The maternal garment of claim 3, wherein the absorbent  
layer and the cooling layer are coextensive and extends from  
an upper end of the front panel to an upper end of the rear  
panel, wherein each layer is disposed in a stacked configu-  
ration and the cooling layer is closest to the exterior layer  
and the absorbent layer is closest to the interior layer.
10. The maternal garment of claim 9, wherein an anti-  
bacterial layer is positioned between the interior layer and  
the absorbent layer.
11. The maternal garment of claim 1, wherein the interior  
layer only overlaps the exterior layer along the front and rear  
panels, whereas the first and second side panels comprise  
only the exterior layer.
12. The maternal garment of claim 1, wherein the front  
panel and rear panel each comprise opposing lateral sides  
bounded between the first and second side panels, such that  
a lateral side of the front panel does not overlap or connect  
to a lateral side of the rear panel.
13. The maternal garment of claim 12, wherein the  
opposing lateral sides of the rear panel and the opposing  
lateral sides of the front panel each taper outward from the  
upper perimeter thereof.
14. The maternal garment of claim 12, wherein opposing  
lateral sides of the rear panel are parallel to one another.

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